1127-192 The Outcome of Percutaneous Coronary Interventions of Saphenous Vein Grafts in Diabetic Patients Compared to Nondiabetic Patients

Salman Ashfaq, Qahtan Malki, William S. Weintraub, Henry A. Liberman, Anna Kalynych, Douglas C. Morris, Emir Veledar, John S. Douglas, Ziyad Ghazzal, Emory University, Atlanta, GA

Background: Percutaneous coronary intervention (PCI) of native coronary arteries is known to be associated with more adverse outcomes in diabetics compared to non-diabetics. Whether diabetes is also a marker of less favorable outcomes in saphenous vein graft (SVG) interventions has not been well defined in the past. We attempted to determine if there were differences in the in-hospital, intermediate, and long term mortality rates among diabetic and non-diabetic patients undergoing PCI of saphenous vein grafts.
Methods: Data on all subjects undergoing PCI at Emory Hospital from 1980 to 2002 was collected prospectively and entered into a computerized database. All patients with PCI of SVG were included in analysis. There were 3541 SVG percutaneous interventions (2422 in non-diabetics, 1119 in diabetics) performed in 2488 patients.
Results: At baseline, there were no differences in the rates of angina, or prior history of myocardial infarction (MI) in the diabetic and non-diabetic groups. Diabetic patients were more likely to be females (27% vs. 17%, p<0.0001), to have high blood pressure (75% vs. 58%, p<0.0001), and to have congestive heart failure (CHF NYHA II-IV) (16.6% vs. 9.0%, p<0.001). There were more in-hospital deaths in diabetics (2.1% vs. 0.7%, p=0.004). Multivariate predictors of in-hospital mortality were diabetes (HR=3.6, CI=1.7-7.5, p=0.0007), CHF NYHA II-IV (HR=3.8, CI=1.8-8.0, p=0.0005), and older age (HR=1.04, CI=1.0-1.9, p=0.02). The incidence of post-PCI Q-wave MI was also higher in diabetics vs. non-diabetics (1.46% vs. 0.88%), but this did not reach statistical significance (p=0.15). Diabetic patients had higher 30-day mortality (4.3% vs. 1.9%, p<0.0001). 1-year survival was worse in the diabetic group (87.4% vs. 94.3%, p<0.0001). The 5-year survival rate was also worse for the diabetic group (67% vs. 81%, p<0.0001). After multivariate analysis, diabetes remained the most important predictor of worse 5-year survival in this population (HR=1.8, CI=1.5-2.1 p<0.0001).
Conclusion: Diabetic patients undergoing percutaneous intervention of saphenous vein grafts have significantly higher in-hospital, intermediate, and long-term mortality compared to non-diabetics.

1127-193 Clinical Outcomes After Percutaneous Coronary Intervention in Right Ventricular Infarction

Aditya K. Samal, Tulsidas S. Kuruvanka, Christopher J. White, Stephen R. Ramee, Tyrone J. Collins, James S. Jenkins, Ochsner Clinic Foundation, New Orleans, LA

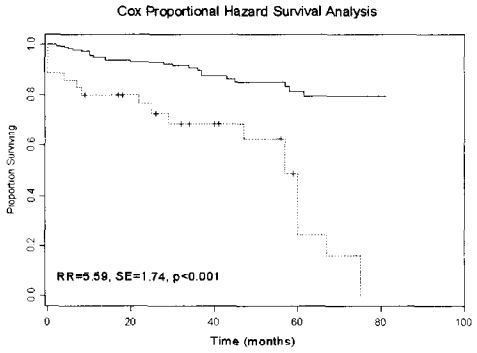
Background: Right ventricular myocardial infarction (RVMI) adds to the morbidity and mortality associated with left ventricular myocardial infarction (LVMI). While the effects of timely reperfusion in LVMI are well established, the benefits are less clear with the addition of RVMI. We assessed the effect of successful coronary intervention of the occluded proximal RCA prior to the origin of the RV branches in patients with acute inferior wall infarction with and without RVMI.
Methods: Seventy seven consecutive patients (61% male) met the inclusion criteria. Thirty seven (48%) patients had RVMI and 40 (52%) did not (mean age 64.8 +/-13.2 and 59 +/-12.7 respectively). We compared baseline characteristics and in-hospital outcomes (IABP support, arrhythmia, LVEF), and death, nonfatal MI, target vessel revascularization, LVEF at one year between the two groups.
Results: Both groups had similar baseline characteristics except increased incidence of prior CAD in the group without RVMI. There was no significant difference between the groups in the use of stent and glycoprotein IIb/IIIa antagonists (70.3%, 80%; 41%, 43% respectively).
Conclusion: Despite successful reperfusion, RVMI adds significant morbidity and mortality to LVMI. RVMI is associated with higher incidence of in-hospital bradyarrhythmias and complete heart block, increased requirement for IABP support, higher one-year death rate, and significantly lower LVEF.

Outcome	(+) RVMI (n-37)	(-) RVMI (n=40)	p-value
In Hospital	N (%)	N (%)	
IABP Support	16 (43)	2 (5.0)	0.001
Arrhythmia	11 (30)	2 (5.0)	0.004
One Year			
Death	8 (22)	2 (5.3)	0.04
LVEF >/= 50%	23 (41)	33 (59)	0.04

1127-194 Predictors of Short- and Long-Term Adverse Outcomes Following Saphenous Vein Graft Percutaneous Coronary Intervention

Sandeep Nathan, Akshay Gupta, Aaron Satran, Francis Q. Almeda, Lloyd W. Klein, Rush-Presbyterian-St. Luke's Medical Center, Chicago, IL

Background: In SVG PCI, similar variables may predict both short and long-term adverse events. We evaluated the association between clinical and angiographic variables, major ischemic complications and long-term survival in this population. **Methods:** 296 consecutive SVG PCI's (353 lesions) were analyzed for 33 clinical and angiographic variables. Periprocedural complications were noted and long-term followup obtained. Angiograms were reviewed in a blinded fashion. Analyses were performed using Pearson's Chi-square and Cox proportional hazard regression. **Results:** Major periprocedural ischemic complications occurred in 10.8% of patients; when compared to uncomplicated SVG-PCI, complications were associated with older graft age (121 vs 96 mo, p=0.04), type C lesions (89% vs 55%, p<0.001), pre-procedure thrombus (54% vs 12%, p<0.001), and proximal anastomosis/graft body lesion location (100% vs 78%, p<0.001). DM (RR=1.75, p=0.05). CHF (RR=1.96, p=0.02), type C lesions (RR=1.91, p=0.047) and pre-procedural thrombus (RR=2.50, p=0.003) were independent predictors of death. At a mean followup of 34 months long-term survival was significantly lower in patients with periprocedural complications. (Fig.1) **Conclusions:** In SVG PCI older graft age, type C lesions, pre-procedure thrombus, and proximal anastomosis/graft body lesions are associated with periprocedural ischemic complications while DM, CHF, type C lesions, and pre-procedural thrombus are independent predictors of mortality.



1127-195 Impact of Chronic Renal Insufficiency on Long-Term Survival Following Percutaneous Coronary Intervention

Babak A. Vakili, Warren Sherman, Kumar L. Ravi, Timothy A. Sanborn, David L. Brown, Beth Israel Medical Center, New York, NY

Background: Patients with pre-existing chronic renal insufficiency (CRI) at the time of percutaneous coronary intervention (PCI) are at increased risk of procedural and in-hospital adverse outcomes. However, the impact of CRI on long-term outcomes following PCI is less clear, particularly in the contemporary era of PCI with the availability of stents, atheroablative devices and GP IIb/IIIa inhibitors. We sought to assess the impact of CRI at the time of PCI on long-term survival. **Methods:** Three hospitals in New York City contributed prospectively defined data elements on 4284 patients undergoing PCI in 1998-9. Patients on dialysis were excluded. CRI was defined by serum creatinine > 2.5 mg/dl. All-cause mortality at a mean follow-up of 3 years was the primary endpoint. **Results:** CRI was present in 82 patients (1.9%). Patients with CRI were older than patients without CRI (69 vs. 63 years, P<0.001). CRI patients had a greater prevalence of hypertension (83% vs. 70%, P=0.02), diabetes (50% vs. 26%, P<0.001), prior heart failure (17% vs. 6%, P<0.001), peripheral vascular disease (23% vs. 7%, P<0.001) and prior bypass surgery (32% vs. 17%, P<0.001). Three-vessel coronary disease was more frequent (35% vs. 17%, P<0.001) and the mean ejection fraction was lower (46% vs. 51%, P=0.008) in CRI patients. The development of heart failure during admission was 18% among CRI patients compared to 5% for patients without CRI (P<0.001). The use of stents and GP IIb/IIIa inhibitors did not differ significantly between groups. Angiographic success was 97% in both groups. In-hospital mortality was 3.3% for patients with CRI compard to 0.4% for those without CRI (P<0.001). At a mean of 3 years follow-up, mortality rate for patients with CRI was 40% compared to 8.2% in patients without CRI (Log-rank P<0.001). On Cox proporational hazards analysis, CRI was an independent predictor of mortaliy (Hazard Ratio, 3.1, 95% Confidence Interval, 1.7-5.5, P<0.001). Conclusion: CRI at the time of PCI is independently associated with a 3-fold increase in the hazard of death. The increased mortality of CRI patients should stimulate further research concerning appropriate treatment and surveillance strategies.

1127-196 The Impact of Body Weight on Outcome After Percutaneous Coronary Intervention--The Obesity Paradox Revisited: A Report From the National, Heart, Lung, and Blood Institute Dynamic Registry

Janet M. Johnston, Martial G. Bourassa, Helen A. Vlachos, Sheryl F. Kelsey, David O. Williams, Kevin E. Kip, Katherine M. Detre, University of Pittsburgh, Pittsburgh, PA, University of Montreal, Montreal, PQ, Canada

Background: Recent studies have shown that, paradoxically, overweight and obese individuals have a lower risk of in-hospital adverse events and one-year mortality after percutaneous coronary intervention (PCI) than patients (pts) with normal body mass index (BMI). Methods: To reassess the effect of BMI on outcome in a multicenter PCI registry we studied 4612 Dynamic Registry pts (24.2% Normal BMI,43.3% Overweight, and 32.4% Obese). Outcome analysis was performed first for all pts and again after excluding smokers and pts with severe concomitant disease. Results: Compared to those with normal BMI, both overweight and obese pts were younger and had less concomitant illness (p<0.001). Conversely, obese individuals had more risk factors for coronary disease such as diabetes and hypertension (p<0.001). The extent of coronary disease and the mean number of lesions treated was similar across BMI groups. In-hospital death and myocardial infarction (MI) rates were lower with higher BMI, as were mortality rates at one year. However, limiting the analysis to non-smokers who presented with no severe concomitant disease revealed substantially lower mortality rates and the differential was